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B. Pharmacy (Ayurveda) 3rd Semester Examination

Pharmaceutical Statistics (NS)

BPA-335

Time : 3 Hours   **Max. Marks : 70**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt any six questions including question no. 1 which is compulsory. The marks for each question are indicated against it.

1. Attempt all parts :

    (a) Define statistics.

    (b) What is frequency distribution?

    (c) Explain the term 'skewness'.

    (d) What is coefficient of variation?

    (e) Define Karl Pearson's coefficient of correlation.

    (f) Find the probability of getting a head in a tossing a coin.

    (g) What do you understand by t-test?

    (h) Define the standard error of estimate.

    (i) What is Poisson distribution?

    (j) Discuss the measures of kurtosis.   (10×2=20)

2. Consider the following distribution :

x :	0-10	10-20	20-30	30-40	40-50
f :	12	18	20	25	23

Compute mean, median and mode.   (10)

3. The mean weight of 150 students is 60 kg. The mean weight of boys is 70 kg with a standard deviation of 10 kg. For girls, the mean weight is 55 kg and standard deviation is 15 kg. Find out the number of boys and girls and combined standard deviation.   (10)

4. Calculate the coefficient of skewness from the following data :

Mid point :	15	20	25	30	35	40
Frequency :	12	18	25	24	20	21

(10)

5. Obtain the lines of regression from the following data :

x :	4	5	6	8	11
y :	12	10	8	7	5

Verify that the coefficient of correlation is the geometric mean of the two coefficients of regression.   (10)

6. To study the performance of three detergents and three different water temperatures, the following 'whiteness' readings were obtained with specially designed equipment :

Water temperature	Detergent A	Detergent B	Detergent C
Cold water	57	55	67
Warm water	49	52	68
Hot water	54	46	58

Perform a two way analysis of variance, using 5% level of significance (given F5%=6.94).   (10)

7. (a) Distinguish between Primary and Secondary data.

    (b) Fit a binomial distribution to the following data.

x :	0	1	2	3	4
f :	28	62	46	10	4

(5×2=10)